DOCUMENT RESUME

ED 298 916 IR 013 301

AUTHOR du Toit, Brian M.
TITLE Innovation and Diffusion--An Anthropological View.
PUB DATE 84
NOTE 12p.; In: Instructional Development: The State of the Art, II; see IR 013 273. For volume I, see ED 292 444.
PUB TYPE Viewpoints (120) -- Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Anthropology; *Change Strategies; *Classroom Environment; *Cultural Influences; *Diffusion (Communication); Educational Environment; *Instructional Development; *Instructional Innovation

ABSTRACT

This chapter presents the anthropological theory of innovation and diffusion, and applies it to the problem of implementing planned change within the instructional development process. The work of Barnett and others on culture and planned culture change is described and applied to the educational system and the classroom environment. Barnett's theory of innovation is then applied to the implementation of planned change within instructional development, and the position of the instructional developer as an advocate of change and the relationship of the developer to the client are considered. Two figures are included. (29 references) (Author/EW)

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A. THEORIES

Chapter 28

Innovation and Diffusion — An Anthropological View

Brian M. du Toit

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The works of Rogers and Havelock are well known in most instructional development programs as providers of valuable information as to techniques for diffusion of innovations. Yet another equally important source of information concerning the diffusion of innovations often goes unnoticed. The work of Barnett and others—an anthropological approach to diffusion of innovations—is the subject of this chapter, a chapter which should greatly enrich understanding of the process for most developers.

When academicians are invited to participate in a discourse in disciplines quite different from the one in which they were trained, they venture into a situation fraught with potential misinterpretation and terminological diversity. For this reason it is essential to clarify and agree on the terms to be used and to explain contextual variations. When this discourse pertains to disciplines which are not very different and which deal with the same subject matter, the problem is complicated. Readers always have a logical working knowledge of terms and these make sense in the context in which they operate. The use of terms in a way which diverges too drastically obstructs communication and it is therefore essential to clarify how such key terms will be used.

This chapter will explore the broad area of culture and **planned** culture change while giving special attention to innovation and diffusion. The subject is approached from a social antrhopological perspective and applied to the field of education. The courtship between the two disciplines has unfortunately in the past too often lead to a tryst rather than a marriage. It is hoped that the current venture will result in a more "meaningful relationship" between education and anthropology.

CLARIFICATION OF CONCEPTS

Anthropologists, ever since the discipline was first recognized, have tended to contradict their own basic teaching. Anthropology is the ανθροξ loyos, the "study of man" (embracing woman, as is sometimes humorously pointed out) yet every student must learn how an ever growing number of crown princes of the discipline have defined **culture.** Anthropology for some, then, becomes the study of culture (i.e., culturology as White (1949) states) rather than the study of people. The waste of time and energy in this venture is clear from the fact that this "culture" which at first differentiated between **homo sapiens** and non-(or less) sapient forms, and involved speech and tool use which could be taught to a next generation, has progressively been redefined. As evidence of tool use, tool making, communication and experience transfer among primates and other biological forms appeared, culturologists have been back-peddling because they were, in fact, looking at the products of culture rather than at the culture, and because they wanted to use culture as a distinguishing feature rather than emphasizing its characteristics.

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So complicated and cluttered had the field become that by 1952 Kroeber and Kluckhohn published an encyclopaedic compendium containing at least 150 definitions of culture and statements about the concept. These range all the way from seeing culture as Kroeber originally did, "as a unique, objective level of reality, self-sustaining and self-generating (sui generis)" (Brameld 1963:88) to Racliffe-Brown's position that the word "culture" denotes "not any concrete reality, but an abstraction" (1952:190).

Inasmuch as people's conception of such a key concept will also influence the way they think about related terms and processes, it is essential to arrive at a practical working definition.

There are four basic areas in which clarification is needed if a workable concept of culture is to be formed. These are (a) culture is an abstraction; (b) culture is ideational; (c) culture is dynamic; and (d) culture is learned.

Most persons these days agree that culture is not a thing **sui generis**, that it is not superorganic, that it is not extrasomatic, and that it must be found in the behavior of people. But it is essential that we go one step further in recognizing that what we refer to as culture is abstracted from the thoughts and actions of individuals being observed. The New Zealand anthropologists Beaglehole and Beaglehole (1946:15) state that in studying the culture of a group, the social scientist "must abstract and generalize from the private experiences of as many informants as he is able to study." Benedict illustrates this slightly differently when she says that "cultural configurations stand to the understanding of group behavior in the relation that personality types stand to the understanding of individual behavior..." (1932:23). **Culture must then be seen as an abstraction** which in very general terms represents the behavior of individuals and that which gives rise to such behavior. Strictly speaking, we always deal with the culture of an individual, but this individual behavior would be designated idiosyncratic were it not shared by other members of the social group. Thus, whether we are referring to the residents of an isolated traditional village or urbanites in a modern megalopolis, we must always start our observation at the individual level and abstract from behavior patterns that are shared results from an ideational base, for "An analysis of culture, if fully carried out, leads back to the individual mind" (Goldenweiser, 1933:59).

Every reader will agree with the designation **homo sapiens**, and with the accompanying clarification that sapient forms are able to symbolize and to abstract. Ideas allow the individual mental images, some of which are given behavioral and others physical expression while some remain at the ideational level. As long ago as 1916 Wissler said that "a culture is a definite association complex of ideas" (1916:197). While we have to be careful of the concept of "stream" and the way this stream of ideas "passes" from generation to generation, we might also agree with Ford's position that "culture may be briefly defined as a stream of ideas, that passes from individual to individual by means of symbolic action, verbal instruction, or imitation" (1949:38).

Culture, I would suggest, **must be seen as ideas and idea constellations**, some of which remain at the ideational level while others are expressed in behavioral or material form. Culture becomes significant only when these ideas or their representations are shared. This allows us the shorthand reference to the culture of the group, e.g., student culture, Gainesville, Florida, culture, or American culture. I find no fault with speaking about culture in this sense provided we keep in mind that we are discussing an abstraction and provided we do not ascribe superorganic qualities to it. The latter unfortunately is a trap which, unless consciously avoided, ensnares the social scientist. Barnett states that "it is usually denied that culture is or does anything, materially speaking. Yet, typically, theories and models and explanations are framed in terms which belie the denial. From the beginning of its conceptualization as a standard, average, or ideal of behavior, the idea of culture has taken on the properties of an entity independent of the human beings who are supposed to be molded or guided by it" (1954:1001). Without realizing the shift, a writer may suggest that culture grows, determines behavior, flows its course, accumulates and dies. What is happening, of course, is that an idea is credited with the properties of a thing; an abstraction becomes an entity.

A question which might arise at this point pertains to the subject of the abstraction and who is involved in this process. Social scientists have long recognized the fact that concepts such as culture, society, systems, and so forth are conceived and used essentially as heuristic devices. They are thus formulations in the head of the researcher rather than existing "out there." It would be safe to suggest that no person fully internalizes the culture of the group in which s/he lives, nor do they consider their thoughts and behaviors in a holistic sense. People do recognize their life style and tradition, contrasting it with that of their neighbors, but this recognition of differences is usually of a different nature than that described by the social scientist. It usually includes a geographical and an ethnic referent and is more subjective than that of the "scientist." We should also keep in mind that there usually is a difference between the ideal and the real patterns of behavior. This is due in part to idealism of how people would like something to be or to be performed in contrast with the way it is, but also to the very fact of cultural dynamics. The way people remember something and the way they would like to see it are based upon past experiences or thought patterns and do not allow for continuous growth and change. This concept also has importance in the field of education, in which ideal concepts, curricula or methods might be out of step with the modern situation.

But we need to make one more point, which

is based upon and derived from the previous two, namely, that **culture is dynamic.** This needs to be seen in the light of the foregoing discussion rather than standing on its own. If culture is an abstraction based upon ideas and ideational constructs, then it also is implied that it continuously changes as ideas change in response to sensory and other stimuli. As the ideas change so do the configurations of which they are a part, and so also do the behavioral and material forms representing them. People are in a continuous state of exposure to sound, sight, feeling, touch, taste, smell and other stimuli. These result in an ongoing interplay between that which was experienced and that which is experienced, changing imperceptibly or dramatically the ideational base and resultant expression of a person's culture. To insist, therefore, that the very definition of culture includes change is clear, and to state that "culture change" is really redundant is an outflow of this position. Culture is in a constant state of flux, but the change may be directed and the rate of this change may be increased. We shall return to this point below. The implication of this statement is that a person's culture changes as s/he meets new situations, is exposed to new ideas, experiences novel behavior forms. What the person is responding to is the stimuli in the new situation, not some invisible force, and s/he is internalizing the stimuli against her/his own experiences, personality, and values. I would then disagree very strongly with White who states that "No people makes its own culture; it inherits it ready-made from its ancestors or borrows it from its neighbors" (1949:337). But how, we would ask, does culture change occur if we simply accept it ready- made rather than making any input, and again White explains:

> To be sure, there is 'something outside one's self,' a power, a force, that lays hold of one and compels him to do thus and so. But there is nothing mysterious or mystical about it. It is not something unearthly or divine as Goethe suggested. It is simply the great tradition of culture that holds each one of us in its powerful embrace. When, as if in a river, we are caught up in a current or rapids of culture change, or swept into the vortex of cultural synthesis, we can do naught but give ourselves wholly to it. Then indeed do we feel a spirit not our own. But we know whence it comes and what its nature is. It is the great and cumulative stream of human culture, flowing down to us from its sources in antiquity, carrying us upon its bosom, nourishing and sustaining us, using, but yet preserving rather than consuming us for the culture and the generations yet to come (1949:298).

Such evolutionism is expressed in slightly different terms by Steward (1955), and while his interpretation allows for multilinear rather than unilinear evolution, it still denies the role of the individual and removes the latter from the cultural process.

But let us return to the main argument. It has been suggested that what we normally speak of as culture is really an abstraction deduced from the ideas and idea- based expressions of individuals and furthermore that this is continuously changing as the person is exposed to new stimuli. Since this culture is continuously changing it must be based upon a process of reacting to stimuli and thus to **a process of learning.** Young says the term culture "refers to the more or less organized and persistent patterns of habits, ideas, attitudes, and values which are passed on to the newborn child from his elders or by others as he grows up" (1945:7). Slightly different is the view of Opler who sees it "as the sum total of learned techniques, ideas, and activities which a group uses in the business of living" (1947:8), while cultural behavior denotes "all human functioning that conforms to patterns learned from other persons" (Haring 1949:29). In all three of these definitional statements we find an emphasis on learning. This is due to the fact that the human infant is born with an almost endless potential and internalizes stimuli presented initially in touch, vision, taste and smell. As shared symbols are learned other forms of communication develop. But we must remember that those who are teaching are initially much more enthusiastic than those who are learning and there is a good reason for this. Those who teach have an interest in assuring that the new or younger members of the group perpetuate the values which they hold. Thus a mother, father, or sibling will present information and reward learning by an infant or child in keeping with their own (individual) culture. The result is that a great deal of cultural continuity results.

One of the most interesting examples along these lines occurs in the context of second- and third-generation Americans. The former do everything possible to look, sound and act like Americans and they are usually supported in this by their immigrant parents who do not want their youngsters to appear different and do want them to be able to compete equally. When the third-generation starts schooling they exhibit more enthusiasm for learning the old culture (including folklore, language, recipes and the like) than their parents have for teaching it. In many cases their enthusiasm goes unrewarded because the parents have forgotten the old ways and the grandparents are deceased. This aspect of continuity and learning is central to the concept of ethnic roots as is the revived interest by Native Americans in their traditions. While it is beyond the scope of the present discussion, this theme is very closely linked to the bicultural and bilingual programs which are being instituted at various levels of state and county education.

Social scientists speak of socialization and enculturation as distinct from education. They use the former term to describe those processes (much of which are subconscious and based upon rewarded behavior) by which the young are assisted to assume roles in the social system in which they live or to share the ideas, acts and artifacts of the group among whom they live. The more technical differences between socialization and enculturation, which need not concern us here, have been discussed by Mead (1963). Normally, in traditional societies, these processes differ only slightly from education. From an early age children are presented with the desirable and "right" ways of behaving, and with the right tools to use in specific situations. The result of this education is relative homeostasis in the person and relative continuity in the acts and artifacts of group members. It assures that the new generation will be imbued with the value-orientations, knowledge, and existential premises of the older generation. It assures that the traditional pattern of life will not be disturbed too greatly. Mead states that "primitive education was a process by which continuity was maintained between parents and children, even if the actual teacher was not a parent but a maternal uncle or a shaman" (1943:637). While education, socialization and enculturation in traditional societies were almost synonymous (in fact Durkheim speaks of "education as the "systematic socialization of the young generation by adults" [1956:124]), Twentieth Century industrial countries have given education a new meaning. For our purposes, however, both result in cultural transfer, i.e., in providing the person with the ideas and idea-constellations which are either new or qualitatively different.

Without entering into a full discussion, we should differentiate between formal and informal education. Speaking of socialization, Mayer (1970) contrasts "practices" and "processes." The former refers to vernacular activities in which the actors specifically aim at socialization. This would include traditional education in which training in attitude and role-playing skills is the objective. But this may in fact not be as successful as the actor wishes and the real socialization or education may in fact be going elsewhere. These are the "processes" which actually help people in acquiring useful attitudes and skills. A great deal of enculturation occurs in the formal setting where skills are taught and attitudes are plied but equally as important are the situation and context, the example and role model, and the opportunities and stimuli. We must also realize that modern Western education (particularly schooling) involves some critical discontinuities--discontinuities which are as much a part of the educational system as they are of our cultural conditioning. Benedict (1938) years ago pointed out some of these and as the period of dependence has increased so have the discontinuities, linked as they are to economic dependence, learner-teacher roles, peer pressure, barrenness of ritual and so forth.

The last term which should be clarified is diffusion. In a later section of this chapter we will deal more fully with the process, but here it is necessary to tie it in with the concepts of culture, culture change, and education. Generally speaking, diffusion refers to the spread of a belief, act or artifact from one group to another. As was the case with culture, persons who use this term may be able to clarify what they mean by the term but in the next breath will suggest that diffusion is "the transmission of elements from one culture to another" (Webster's). Now it is obvious that "cultures" do not transmit or receive. People may be exposed to new ideas or may be presented with elements about which they form ideas and they may then decide to accept or reject such new elements or to reinterpret them. But people never accept new ideas (or their representations) unless there is some positive value attached to them. As Barnett has pointed out: "all acceptance is diffusion, and all diffusion is stimulus diffusion when the acceptance of a new idea is understood as a mental process of the accepter and not as a logical construct to explain resemblances" (1953:332). All culture change, due to contact among people or due to conscious efforts to induce change, must thus be seen as diffusion. It must be differentiated from internal change, or innovation, where mental recombinations result in new expressions, be this a new dance form or a better mousetrap.

PLANNED CULTURAL CHANGE

If we accept the premise that culture is in the last analysis a mental construct and that acceptance or rejection of diffusion elements thus also occurs at the ideational level, then it should be possible to plan cultural change. Such planning would involve presenting a person or persons with those alternatives which would cause change in the direction the planner wished. It could also involve baiting the alternatives so that the person confronted with the choice felt that something would be gained by the selection and resultant change. All behavior, of course, involves optative features and most choices are made in self-interest--because there are short-term or long-term gains to be derived from the choice.

Education in the U.S., I would suggest, is a special kind of "directed" or "planned" cultural change. A team of personnel conspire to present specially selected information, using media which have been tried for their effectiveness, to present a child with ideas and their products in such a way that these ideas and products (behavioral and material) gain selectivity value. The selected information is also known as a curriculum and the change agents are known as teachers. Hopefully the children, known as pupils, value the information presented (they have to if they want to progress) and in time acquire certain empirical knowledge, certain socially acceptable behavioral forms, and certain skills. The greater the resemblance between the ideal (envisioned by teacher

planners) and the pupil's achievements, the greater the resemblance between the blueprint, and the product, the greater the success of the planned culture change project.

The unique fact about our educational system is that enquiring, questioning, and experimentation are encouraged and rewarded. The student who memorizes required factual data may perform with satisfaction but the one who ends each sentence with an insatiable "Why?" is the one who will excell, basically because s/he has been enculturated to express the values planners place on this element of education. The ability of students is measured by their performance, and teachers want as many "good" and as few "bad" students as possible. "Good" students are those who perform as the teacher wants them to perform. "Bad" students do exactly the opposite.

THE CULTURE OF THE CLASSROOM

If is an accepted and provable proposition that those persons who come from a common background and who spend the greatest amount of time together, will have the largest number of shared ideas. This is due to communication, interaction and imitation. In short, we say that those who come from a common background have a common culture. This cultural referent has both a geographical and a temporal aspect. We not only find that Midwesterners contrast with Southerners or urbanites with rural dwellers but also that those socialized during the 1940s contrast in certain respects with those socialized in the 1960s. We even speak of a generation gap.

To a lesser extent, but as critical, is the difference between different age, sex and ethnic categories of a school's population. While it is easy to establish sex differences, it becomes more problematical to detect nuances of ethnic, class and other differences among students. One thing is certain: most students, as a category, contrast with most teachers. This allows us to speak of the former as having a "culture" which, with reference to this time and place, is quite different from that of the authority figures in the school system.

The "culture" we are delineating here is composed of ideas, values, interaction frequency and intensity, linguistic referents, and behavioral forms. When students speak of "bad" and mean good, of "cool" or "hot" as meaning acceptable, and of a "killer" or "wild" movie when they indicate one they recommend, we are dealing with group-specific shared meanings. When instead of a congratulation a student says "give me five," or instead of a handshake one is instructed to "slip me some skin," it is obvious that there are cultural differences.

Using values, which guide the optative features of a culture, as a central theme we can follow Spindler in his delineation of different groups in an educational community. He sees "culture as a goal-oriented system" (1963:132). As different groups or sub-groups are oriented toward different goals, i.e., have different value systems, it is possible to arrange them on a continuum between the traditional educational values and the emergent values which are a product of growing up and coming to terms with the present. It is important to return again to the individual who is choosing between alternatives, who is experiencing challenges, and who is coming to terms with persons and situations. In some cases this process is relatively harmonious, in others it is marked by conflict. "The conflict goes beyond groups and institutions, because individuals, in our transitional society, are likely to hold elements of both (traditional and emergent) value systems concomitantly" (Spindler 1963:138). Following Spindler, then, we can delineate a number of cultures in the educational community (See Figure 28-1).

The culture of the classroom as represented by students, is overseen by a teacher who represents a different culture. The classroom as a whole, as a social system (Parsons, 1959), can also be contrasted with the school administrators. When we remember the politics of power and where the authority is, we can readily expect a clash. Those who hold to traditional values and are in general more conservative are also those with the power and authority, and conversely those with least authority are those who are on the forefront of emergent values, of alternatives, of "culture change."

TEACHING AND LEARNING

If we use the same schema presented above, but turn it to a vertical axis, it better represents

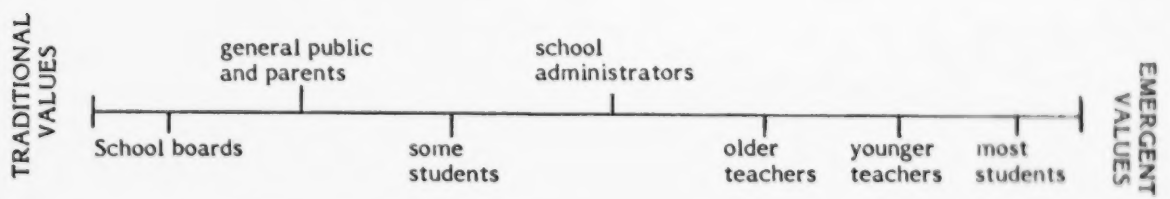

Figure 28-1. Cultures in the educational community.

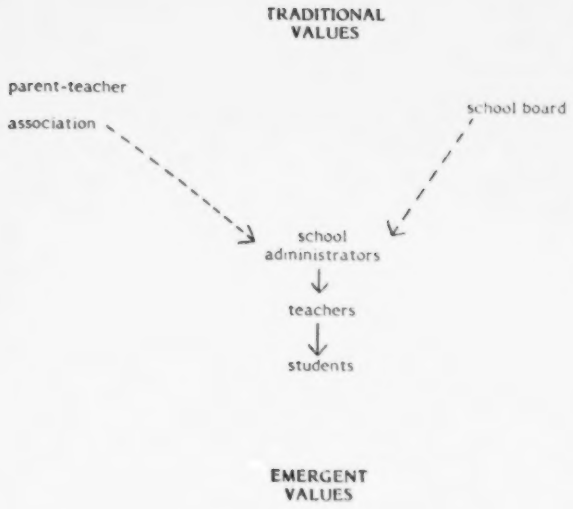

Figure 28-2.

both the authority component and the learning requirements. In a very general sense then we might think of the set-up as follows (See Figure 28-2).

The upper levels are of less concern to this study than are the lower levels. Of critical importance is the fact that within the teacher category those with more seniority (usually coincident with age) have the greatest influence and are the most conservative in terms of traditional values. The students who are most directly involved with emergent values are those who are required to satisfy the authority figures. The students must accept, in principle at least, the values and behaviors laid down by teachers and administrators, and those who are best at acceptance (or faking acceptance) are those who are deemed to perform best. These traditional values include studying, performing well on examinations, and learning what is offered. Transfer of traditional values is absolutely essential to cultural continuity and a degree of cultural integration.

We should, however, keep in mind that the classroom has all the makings of a battleground. Students are "confronted" by a representative of the authority group. Students represent new forms of behaving, new values, new ideas. They are present in numbers while the teacher is alone. But those who back a student are usually other students while those who back a teacher are members of the authority component of the school system. The battle lines are drawn; the confrontation seems inevitable. However, battles seldom occur. The reason is, of course, that the student increasingly is enculturated and learns that role-performance is rewarding. The status of "good student" requires a role performance which satisfies authorities (and some other students) and as time passes the more senior students start to perform roles which represent their transition from student to the next phase.

One of the most ingenious defusing mechanisms in this context was the appointment and later election of student government, class presidents, and student representatives. Their learning has taken a slight turn and their status requires them to take a mediating role. This same mechanism is used in the appointment or election of faculty as advisors to clubs or teams, or students to faculty committees (even if they are non-voting members), of teachers as school principals, of parents as faculty advisors and so forth. The role of these intermediaries is that of cultural "broker."

Anthropologists in the past have spoken of cultural "mediators," "hinges," or "brokers," as descriptions of the role of middleman between a local peasant community and outside organizations (Gamst 1974:46). In his use of cultural broker Wolf has been quite specific about the definition of the term. Brokers "stand guard over the critical junctures or synapses of relationships, which connect the local system to the larger whole" (1956:1975). If we think of the classroom or the school as a system with its own culture, then these persons who "stand guard" and who act as arbitrators between this system and society at large are in fact mediators or brokers. Silverman clarifies this role as follows: "It seems to be general that there is a rank difference between the mediator and the other persons in the local system who are involved in the mediated interaction. The mediators may take on their function because of previous possession of a higher rank, or they may achieve a higher rank as a result of assuming the mediator role. In either case, the relationship between the local and the national system assumes a vertical form (1965:173). Vertical here has both structural and functional implications. In its structural sense it implies the authority component discussed earlier in this section, and in its functional sense it implies the prestige and role of the broker who is mentally and behaviorally closer to the outside larger whole than most of the members of the subsystem. The broker performs a two-way role representing each system to the other.

MECHANISMS AND RESOURCES

In his discussion of social change, Niehoff (1966:40-41) distinguishes a number of forces which influence the change process. Among those which he sees as being of primary importance, are the following: (1) the methods of communication used by the change agent, (2) the kind of participation received from the recipients, and (3) the manner in which the change agent utilizes and adapts the innovation to the existing cultural patterns. But social change is a two-way action; it requires response from the recipients. The primary

variables are (4) whether they have an initial felt need, (5) whether they perceive practical benefit in adopting a change and (6) whether their (traditional) leaders are brought into the planning and implementation of the process.

Even though Niehoff was discussing international changes in developing areas, the processes apply equally to the social context we are discussing. The school and the classroom in fact represents a sociocultural unit. The persons who constitute a school population or a class contrast at various levels in a cultural sense with nonmembers. The teacher is in fact involved in a project of planned cultural change, introducing a specific program (which we may call a curriculum) in the hope of changing the student culture in those areas valued by the school board and administration. The teacher's success as change agent is measured by the student response. The degree of cultural change among students is measured by their level of satisfying the requirements of the administration. Increasingly this process is being facilitated by the use of various technical and mechanical resources--resources which must be acceptable to teacher and student for there to be any measure of success. In many cases the acceptance or rejection of such devices follow the same basic processes as is followed by any innovation.

Many years ago, in speaking of international aid, Furnivall said that a people must be made to want what they need. I believe that the teacher is in the same role, making students want certain tools, certain empirical knowledge, certain abilities of reason and logic, not because these are useful but because they are necessary. However, the need must be subjectively experienced in order that value be placed on things (abstract and material) which can satisfy it. Two important points should be made here: firstly those who are expected to change must be involved, incorporating them in the process, using their leaders, and involving their cultural background. Secondly innovations must be meaningful and contextual. To use closed-circuit television in the New Guinea highlands would be as ill-conceived as teaching a kid in Chicago to count breadfruit or coconut-crabs. The New York child responds better to images of automobiles and trucks than images of horses and cows. The child accustomed to watching the Saturday morning cartoons will respond well to the same device for teaching ("Sesame Street" or other educational television programs). The important point is that the media do not interfere with the message, the media are part of the culture and thus do not detract from the communication process. It is in this same context that teacher's aids, student assistants, and tutors are of such value. It is also the reasoning behind the recognition of class presidents and student government.

Above it was suggested that innovations must be meaningful and contextual. These are in fact prerequisites for the acceptance of any innovation.

INNOVATION

Barnett defines an innovation as "any thought, behavior, or thing that is new because it is qualitatively different from existing forms. Strictly speaking, every innovation is an idea, or a constellation of ideas; but some innovations by their nature must remain mental organizations only, whereas others may be given overt and tangible expression. Innovation is therefore a comprehensive term covering all kinds of mental constructs, whether they can be given sensible representation or not" (1953:7). This concept has direct application to the educational process we are discussing.

It will be recalled that in the clarification of concepts above, it was proposed that culture is an abstraction and that it is ideational. Culture change, by the same criteria, would involve ideational change. Planned cultural change would involve presenting the client community with those novel elements which they "should" want. But there is very little chance of persons accepting these elements unless they value them. The success of any program of planned cultural change is then to create needs and to package the innovation in such a way that it can be accepted and integrated into existing mental configurations.

This process, normally referred to as a substitution, permits the innovator to present something that is qualitatively new or different into a familiar context, or to present something that is familiar into a new context. The result is possibly temporary confusion as a "sorting out" takes place on the mental level. But "a real confusion of two ideas means something more than a passive neglect of differences. It means that they are treated alike in some respect. They are given the same meaning, or they have the same functions. In brief, one substitutes for the other within the framework of some prototype" (Barnett, 1953:207). A number of the more obvious examples are to be found in the realm of audiovisual teaching aids, students as teaching assistants, and more recently the blossoming area of computer devices. Instead of writing mathematical problems and solving them in a book, a child now can test mathematical skills with a computer which is programmed at a specific degree of complexity. Instructors have always been innovative, and the state of the art is a direct result of their initiative and success. The most successful media innovators are those who are conscious of the cultural background of their students and who gear such innovations to the time, place and setting. But the innovation, however well conceived, will abort unless it is accepted and integrated. Acceptance depends to a great extent on those who are willing to advocate the use of an innovation. Educational television will have little impact among the Amish--not because it is educational but because it is television.

ADVOCATES OF CHANGE

Rarely is an innovation accepted without somebody advocating it, even if this merely implies using something or performing an activity. In most cases innovations are advocated more consciously by a person who tries to make others accept the new idea. When such growth of popularity of a new idea occurs within the boundaries of the original group we call it "acceptance"; when it occurs across boundaries we call it "diffusion." But we must keep in mind that "boundaries" can be variously defined. They may be vertical or horizontal, and they may differentiate national domains as much as they may differentiate social or private domains. Boundaries then may mark off nation-states, as well as social classes; they may be used to define wealthy versus poor just as they may define students versus teachers. Boundaries are arbitrary and may be crossed or in time become obscured, but at any point in time they serve a purpose of circumscribing categories of human beings. The crossing of such boundaries results in diffusion.

Acceptance is not inevitable. Acceptance of new ideas in the educational context depends to a great extent upon the context and the advocates. Normally these advocates for change are teachers. But Mr. Smith is not necessarily the best advocate unless he is in the right context; Ms. Brown has certain and specific advantages as an advocate for one specific innovation but not another. The football coach would not necessarily be the best person to introduce a new mathematics device, nor the librarian the best person to advocate acceptance of a new tool for physical education. Barnett points out that "no person serves as an exemplar in the particular area of his preeminence for everyone who knows him; and...no one is so versatile that he is a universal exemplar in every area of interest that is valued by those who know him" (1953:314). Even within the same context, personalities and attitudes differ, as do manner and procedure. Young differentiates the "poised teacher", the "formal teacher", the "male hero", and the "possessive teacher of starved emotions" (1957:383-385). Each of these types will appeal to certain persons, will be effective in certain contexts, and as advocates will be successful in influencing adoption of certain innovations.

Their role as advocates for change may then be to gain acceptance or to achieve diffusion. Just as all diffusion is really stimulus diffusion, so all education is really planned cultural change. The teacher may use tried and accepted methods, contexts, and resources, or advocate acceptance of innovations. This acceptance is in reality diffusion as the teacher is able to transcend the boundaries between teacher and administration, or teacher and students. The acceptance of this innovation by administrators or students is really stimulus diffusion because the teacher either promises results to the administration or rewards learning among students. The choice between accepting or rejecting the innovation advocated by the right teacher at the right time is not a true choice. The alternatives are baited in favor of acceptance. Diffusion is likely since the advantages are exemplified and the disadvantages ignored.

RETROSPECT

We set out to discuss innovation and diffusion and found that a great deal of groundwork was necessary to establish a terminological frame of reference. We also found it useful to look at the classroom and the school as sub-systems with cultural characteristics which were somewhat unique to them. The aim of education is universally decided and expressed by those who teach rather than those who learn, but in order to achieve these aims those who teach must innovate and attempt to diffuse both their material and their ideals among those who learn. In this process of teaching a variety of teaching aids are used. A teaching aid, says Birdwhistell, "is any device utilized in the strategy of the curriculum to implement the transmission process integral to the special communication system of education" (1963:49). Obviously certain subjects or certain topics of a subject lend themselves to teaching aids but the innovator who is able to advocate a new teaching aid may be able to assure its acceptance and thus its incorporation into the education process.

No ingenuity on the part of a teacher and no originality on the part of an innovator will succeed unless the innovation is accepted. No innovation will be accepted unless it is integrated as an ideational configuration. As the student conceptualizes the novelty, and as its advocates are able to assure its acceptance and incorporation, diffusion is complete.

IMPLICATIONS FOR INSTRUCTIONAL DEVELOPMENT

For the instructional developer, the anthropological viewpoint discussed here has importance for several reasons.

This viewpoint clarifies for us what an innovation is. Namely, an innovation is a change in the psychological state of the originator and/or the adopter.

This viewpoint also clarifies the question concerning whether an innovation should be spread as it is, in a tamper-proof form, or whether it should be adapted to each individual situation in which it is adopted. Clearly, all innovations are invented anew by each adopter. Thus the psychological process of invention must be repeated by each adopter. When this happens, the resulting "invention" will automatically be somewhat different from any other form the innovation has ever had, since each adopter has a somewhat different viewpoint s/he is working from. Thus we cannot ever "drop" an innovation, intact, into a new situation. Whether we deliberately adapt it or not, it will be modified. Conversely, if it cannot truly be

adapted, it cannot truly be adopted, and will eventually be dropped. Examples of this happening are supplied by early work with packaged language laboratories and by the public school experience with the PSSC Physics material.

More importantly, the Barnett model of diffusion changes our focus of interest. With most current models we deal with statistical properties of the change process. We try to reduce the complexity of the change process to a system of interrelated variables representing externally-observable characteristics and events within a social, political or communications system. Barnett causes us to focus upon the single individual, and deals with this individual as perceiving, thinking awareness operating within a particular world-view. An innovation is seen as a particular kind of perceptual operation which takes place within the individual.

Barnett is aware of the various "objective" variables, such as pay-offs for the adopter, status risk, and gatekeeper functions, that can be shown to have an effect upon the fate of an adoption. However, for him, the main question for the instructional developer to consider must be, how can the change agent facilitate the occurrance of the appropriate perceptual events within the potential adopter?

This viewpoint is in some ways more appropriate for the instructional developer than is one derived from sociology or mass communications research. More often than not, the developer is working with either one individual or a small group of individuals; seldom is s/he working with a whole community in which each individual must adopt the innovation for the project to be successful. Even when one is designing a training system for use by a company with several hundred employees, or for use by the military, with perhaps several thousand employees, the actual adopters seldom number more than eight or ten.

While status-risk can be measured for these individuals, and the responses of their gatekeepers can be determined (and these things are important to do), the real problem is how to facilitate these few individual's favorable perceptions of the innovation. How do you establish conditions such that the individual is likely to perceive the true nature of the innovation and its place within the overall system s/he works in? How can you facilitate her/his grasping of the value of the innovation to the system, to her/himself, to her/his reward system and gatekeepers? How can you facilitate her/his perception of her/himself as an adopter of the innovation, or as an advocate of it? If the change agent can satisfactorily facilitate the occurrance of these perceptions within the potential adopter, the potential adopter will probably become an active and powerful advocate of the innovation in question.

Thus, diffusion is seen not as a process involving a great many people, but as a process involving an individual. This is true whether one individual is involved, or whether hundreds of individuals are involved. The diffusion process is really a process involving the multiple repetition of the original act of invention, just as a culture consists of many repetitions through many individuals of the re-invention of a particular world-view, value system and behavioral system. This is not to say that the innovation, or the culture, for that matter, would have come into existence in the mind of the adopter had no one suggested it to her/him. But if the suggestion is to take, it must be processed in the same way as it was in the originator of the idea. This follows from the fact that all inventions, and all adoptions, are ideas; any equipment or materials embodying this idea are secondary; they are not the innovation, but the means of implementing the innovation.

These same principles apply to the interaction between the instructional developer and the subject-matter expert. In many situations subject-matter experts have no training in education or presentation techniques. At best, some of these experts present information to their students in ways which they have found most beneficial to their own learning style. They may present information in the way it was originally presented to them, or they may not present the information at all other than through holding students responsible for knowing it.

If instructional changes (i.e., planned cultural changes) are to be effected it is imperative for the instructional developer to accurately assess the training and background of the subject-matter expert with whom s/he is working. For success of planned cultural change requires that a need be created and that information be packaged so it can be accepted and integrated into existing mental configurations. This, of course, requires that the instructional developer know if s/he is attempting to substitute a different approach into a familiar context or a familiar approach into a new context.

A related implication for the instructional developer follows from this. For the IDer not only is involved with the diffusion of existing ideas, but also with the origination of new ideas to solve particular problems as s/he encounters them. But since, as Barnett demonstrates, an act of invention and an act of adoption are essentially the same acts, psychologically, with the exception of the facilitating conditions being at least partially supplied for the adopter, it would seem both possible and useful to provide ways to provide the innovator with methods for self-facilitation. This has been attempted to some degree already, with such techniques as brainstorming and think tanks. But further progress along these lines should result from an analysis of the diffusion process with the innovator in mind. For whatever methods aid in the spread of an innovation should, when properly modified to allow self-application, aid in the origination of innovations.

Barnett shows where to look for information concerning the facilitation of these internal processes. In his book, Innovation: The Basis of

Cultural Change, Barnett devotes considerable space to the delineation of the internal processes involved in the innovation/diffusion process. His analysis is based upon a psychological perspective that is perhaps not as acceptable to many as it might have been once. Nevertheless, it can serve as a model for the development of a technology of diffusion and of innovation based upon the psychology of conceptual development within the individual, using whatever psychological perspective happens to be popular at the time. For, whether through information processing, radical behaviorism, cognitive learning theory or some other theoretical approach, such a technology must be based upon the way in which the adopter's internal state is modified by stimuli related to the innovation.

A close reading of Barnett also makes clear that in many ways, many of the people the instructional developer typically considers to be clients are members of other cultures, and that many of those we consider to be colleagues are really advocates of opposing cultures. We are, in fact, often involved in "culture clashes," in which we represent one culture and the client represents another. Our colleagues often represent a third culture, in competition with our own to dominate that of the client and her/his environment.

Thus, often what we perceive as a matter of seeing the benefits of a procedure or device in a given setting is, for the client, a situation involving the necessity of a change in world-view. Sometimes a change in self-concept would be required on the part of the client, or a change in a major role the client plays in her/his culture.

Often, when an innovation we are asking a client to adopt requires the cooperation of our colleagues from other departments, we are asking our colleagues to do a very difficult thing. We are asking them to play a role of obvious value, as seen from our cultural perspective, but which might appear useless, ridiculous or even detrimental from within their own culture. For instance, if we belong to a behavioristic orientation, we might ask supervisory teachers to plot the behavior of student-teachers as an aid in their evaluation. We would need the cooperation of the faculty members in the teacher education department, and these professors might belong to a culture with a humanistic outlook. Clearly, if we seriously want this innovation adopted, we are involved in a struggle between two cultures, that of our own and that of the humanistic professors, both attempting to predominate in a struggle to modify the world-view of members of two other cultures, that of the student-teachers and that of the student-teacher supervisors.

Predictions concerning the outcome of such a struggle, or culture clash, can be made, based upon the nature of culture change and culture clashes. This is an area in which Barnett's book can contribute to the practice of the instructional developer; he presents an extensive discussion of culture clashes. This area of discussion should be of value not only from the viewpoint of diffusion/innovation strategy, but also should contribute to our understanding of client-consultant interaction, and to front-end and interface analyses (see appropriate chapters of this book for discussions of these topics).

Of course, these points can be viewed in other ways. It has been empirically established, for example, that a change agent who has a background similar to that of the client is more likely to succeed than is one who has a radically differing background. And an innovation which differs only slightly from the status quo is more likely to be adopted, and to remain in place over a considerable length of time, than is one which requires a major change in the status quo. And this is generally true independent of the potential difference between the two innovations in terms of the amount of systems improvement they result in.

Both of the above facts have been discovered through approaches independent of the Barnettian-anthropological outlook. But they become much more meaningful when viewed through the theoretical framework provided by Barnett, together with the perspective on the nature of culture provided earlier in this chapter. Clearly, communication is easier within a culture than between cultures. And clearly, facilitating conditions are less critical to the occurance of small changes than to the occurance of major changes. From these observations, the earlier empirically-discovered facts can be derived, as can many others. This is more efficient than trying to empirically discover each fact separately. Empirical verification is still necessary, but a predictive science allows more efficient verification than does a non-predictive one.

CONCLUSION

Perhaps, then, the major advantage of the cultural, or anthropological, approach to innovation and diffusion is that it focuses upon the individual, upon internal processes, and upon communities defined in terms of common world-views. It has the advantage of causing, or at least encouraging, the change agent to view her/his proposed innovation through the eyes of the adopter, rather than to view the adopter through the perspective of a set of abstract variables from sociology and communications theory. And it provides a comprehensive theoretical model, an advance organizer if you will, within which to integrate and give meaning to empirically-derived facts and relationships.

None of the approaches to diffusion described in this book, or elsewhere, to the author's knowledge, are mutually exclusive, and this is as true of those emanating from anthropology as it is of those coming from other disciplines. And neither can any of them satisfactorily deal with diffusion by themselves. All of these approaches have their unique contribution to make to our understanding of the change process. What is needed, as is

pointed out elsewhere in this book, is an integrative framework within which the findings from each thread of investigation can be woven together, so as to provide maximal guidance to the change agent and to the researcher in diffusion and related areas. Barnett and the other anthropologists provide us with a viable starting point for the development of such an integrative view.

REFERENCES

Barnett, H. G. Innovation: The Basis of Cultural Change. New York: McGraw Hill Book Co. 1953.

Barnett, H. G. Comment, the Social Science Research Council Summer Seminar, Acculturation: An Exploratory Formulation. American Anthropologist. Vol. 56, 1954.

Beaglehole, E. & P. Beaglehole. Some Modern Maoris. New Zealand Council for Educational Research, Wellington, 1946.

Benedict, R. Configurations of culture in North America. American Anthropologist Vol. 34, No. 1, 1932, pp. 1-27.

Benedict, R. Continuities and discontinuities in cultural conditioning. Psychiatry, Vol. 1, 1938, pp. 161-167.

Birdwhistell, R. L. The use of audio-visual teaching aids. David G. Mandelbaum, Gabriel W. Lasker, and Ethel M. Albert (eds) Resources for the Teaching of Anthropology. Memoir 95, American Anthropological Assoc. 1963, pp. 49-61.

Brameld, T. The meeting of educational and anthropological theory. G. Spindler (ed). Education and Culture. New York: Holt, Rinehart and Winston, 1963.

Durkheim, E. Education and Sociology. Glencoe: The Free Press. 1956.

Ford, J. A. Cultural dating of prehistoric sites in Viru Valley, Peru. Anthropological Papers, American Museum of Natural History, Vol. 43, 1959.

Furnivall, J.S., Colonial Policy and Practice, New York, New York, University Press, 1956.

Gamst, F. C. Peasants in Complex Society. New York: Holt, Rinehart and Winston, Inc. 1974.

Goldenweiser, A.A. History, Psychology, and Culture. New York, 1933.

Haring, D. G. Is culture definable? American Sociological Review, Vol. 14, 1949, pp. 26-32.

Kroeber, A. L. and C. Kluckhohn. Culture: A Critical Review of Concepts and Definitions. New York: Vintage Books, 1952.

Mayer, P. Introduction. P. Meyer (ed.). Socialization: The Approach from Social Anthropology. New York: Tavistock Publication. 1970.

Mead, M. Socialization and enculturation. Current Anthropology, Vol. 4, No. 2, 1963.

Mead, M. Our educational emphasis in primitive perspective. American Journal of Sociology, Vol. 48, No. 6, 1943.

Niehoff, A. H. (ed). A Casebook of Social Change. Chicago, Aldine Publ. Co., 1966.

Opler, M. E. Theories of culture and the deviant. Proceedings of the Spring Conference on Education and the Exceptional Child. The Woods Schools, Langhorne, Penn., 1947.

Parsons, T. The school class as a social system: Some of its functions in American society. Harvard Educational Review, Vol. 29, No. 4, 1959, 297-318.

Radcliffe-Brown, A. R. Structure and Function in Primitive Society. London: Cohen and West Ltd. 1952.

Silverman, S. F. Patronage and community-nation relations in Central Italy. Ethology, Vol. IV. No. 2, 1965, pp. 172-189.

Spindler, G. D. Education in a transforming American Culture. George D. Spindler (ed.) Education and Culture. New York: Holt, Rinehart and Winston, 1963.

Steward, J. H. Theory of Culture Change. Urbana: University of Illinois Press, 1955.

White, L. A. The Science of Culture. New York: Grove Press, Inc. 1949.

Wissler, C. Psychological and Historical Interpretations for culture. Science, Vol. 43, 1916, pp. 193-201.

Wolf, E. F. Aspects of group relations in a complex society: Mexico. American Anthropologist, Vol. 58, 1956, pp. 1065-1078.

Young, K. Social roles of teachers in the classroom. B. E. Mercer, and E. R. Carr (eds.). Education and the Social Order. New York: Rinehart, and Co. 1937, pp. 383-388.

Young, K. Social Psychology. (2nd ed.) New York: F. S. Crofts and Co., Inc., 1945.